

COST-EFFECTIVENESS OF OUTSIDE-IN TRANSOBTURATOR SLINGS (TOT) COMPARED TO RETROPUBIC SLINGS (TVT) FOR TREATMENT OF FEMALE STRESS URINARY INCONTINENCE

Hypothesis / aims of study

Minimally invasive sling procedures using polypropylene tapes to support the mid-urethra have become the gold standard for surgical treatment of female stress urinary incontinence (SUI). Several techniques have been developed for implanting these tapes, the two most common being the outside-in transobturator technique and the retropubic technique. A review of the literature showed that there were no comparisons of the economic consequences of using different techniques. The objective of this study was to investigate the cost-effectiveness of outside-in transobturator slings (TOT) compared to retropubic slings (TVT) for surgical treatment of female SUI.

Study design, materials and methods

This comparative cost-effectiveness analysis of cost and patient benefits was based on meta-analyses of randomised controlled trials conducted in Australia, Austria, Canada, France, Italy, and USA. Effectiveness of TOT and TVT was drawn from a published meta-analysis [1]. The incidence of complications for each technique was obtained from this meta-analysis supplemented with data from subsequently published randomised controlled trials. Mean operation time, length of stay, and time until return to activity was obtained from the trials used for the complications meta-analysis. Consequences of complications and their treatment were based on the opinion of an expert. The cost analyses were based on costs in the United Kingdom. Prices were obtained from the 2008 National Health Service Tariff.

Results

Subjective cure of SUI was equivalent for outside-in TOT and TVT. Outside-in TOT was associated with lower operation costs, lower inpatient hospitalisation costs, and lower complication costs, resulting in a 15% lower total cost (Table 1). Thus, TOT was cost-effective compared to TVT from a health care perspective. Furthermore, the total cost to society was 23% lower for TOT than for TVT, due to the lower indirect patient cost. These results were robust in the sensitivity analysis.

Interpretation of results

This study aimed to investigate the cost-effectiveness of the transobturator technique compared to the retropubic technique using data from meta-analyses of efficacy and complications of the two techniques. The efficacy of outside-in TOT and TVT was found to be equivalent, whereas outside-in TOT was found to be cheaper with respect to operation costs, cost of hospitalisation, and complications. Thus, outside-in TOT was cheaper than TVT from a total health care perspective. In addition, the total cost to society was lower for outside-in TOT. In economic terms, this is a dominant situation, where one treatment is equally efficient but cheaper than the alternative. To put the economic analysis into perspective, the total cost savings for the UK health sector by changing from all TVT to all TOT procedures (assuming 10000 procedures performed per year) would be £1.6 million per year. Likewise, the savings for society as a whole would be in the region of £3.5 million per year.

Concluding message

The results of this economic analysis indicate that outside-in TOT slings are more cost-effective than TVT slings.

Table 1. Costs of the outside-in TOT and TVT sling techniques

	TOT	TVT
Operation cost (ward and product cost)	£415	£467
Cost of hospitalisation (stay in hospital)	£284	£337
Main complication costs	£30	£31
Other complication costs	£153	£206
Total health care cost	£882	£1041
Indirect patient cost	£293	£488
Total cost to society	£1175	£1529

Main complications were: bladder injuries, vaginal erosions, voiding difficulty, de novo urgency, and groin/thigh pain.

Other complications were: wound discomfort, foreign body granuloma, paraincisional hernia, haematoma, vaginal injury, urethrolisis, blood transfusion, sling repositioning, urethral injury, sling division, urinary infection, urethral erosion, infection requiring antibiotics, pelvic abscess, ureteral injury, nerve entrapment.

References

1. Latthe PM, Foon R, Toozs-Hobson P. Transobturator and retropubic tape procedures in stress urinary incontinence: a systematic review and meta-analysis of effectiveness and complications. BJOG 2007;114:522-531

<i>Specify source of funding or grant</i>	None
<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	No
<i>This study did not require ethics committee approval because</i>	It was a meta-analysis of randomised controlled trials already published.
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes